customer's wavelengths and local customer's up-stream and down-stream return path packets, back into a network compatible packet stream for distribution to a customer served by another primary distribution/aggregation node in said architecture.

14. The architecture according to claim 4, wherein packets from one customer's premises may be directed to another customer's premises via said wavelength packet cross-connect thereby bypassing transit through one of said distribution node and said aggregation node.

15. The architecture according to claim 4, further comprising:

a broadband photodetector for detecting a wavelength and data rate of customer generated data;

an optical-to-electrical device coupled to said bi-direction Lambda 1 to Lambda "n" converter and packet generator for reading packet header information; and

said bi-directional Lambda 1 to Lambda "n" converter and packet generator packetizes said customer's data and converts said packetized customer's data to a wavelength suitable for transfer through said wavelength packet cross-connect.

16. The architecture according to claim 15, wherein said wavelength packet cross-connect is in communication with said plurality of wavelength packet multiplexers and another customer.

17. The architecture according to claim 15, wherein said bi-directional Lambda 1 to Lambda "n" converter and packet generator selects wavelengths so as not to "crash" with non-available wavelengths due to use of non-available wavelengths by other components in said architecture.

18. The architecture according to claim 4, further comprising:

a broadband photodetector for detecting a wavelength and data rate of customer generated data;

an optical-to-electrical device coupled to said bi-direction Lambda 1 to Lambda "n " converter and packet generator for reading packet header information; and

said bi-directional Lambda 1 to Lambda "n" converter and packet generator packetizes said customer' s data and converts said packetized customer's data to a wavelength suitable for transfer through one of said plurality of wavelength packet multiplexers and said aggregation node.

19. The architecture according to claim 18, wherein transfer through said plurality of wavelength packet multiplexers results in said packetized customer's data traveling further down-stream through said architecture.

20. The architecture according to claim 18, wherein transfer through said plurality of wavelength packet multiplexers results in said packetized customer's data traveling further up-stream through said architecture.

21. The architecture according to claim 4, further comprising:

a broadband photodetector for detecting a wavelength and data rate of customer generated data;

an optical-to-electrical device coupled to said bi-direction Lambda 1 to Lambda "n " converter and packet generator for reading packet header information; and

said bi-directional Lambda 1 to Lambda "n" converter and packet generator converts said customer' s data to a wavelength suitable for transfer through said wavelength packet cross-connect.

22. The architecture according to claim 21, wherein said wavelength packet cross-connect is in communication with said plurality of wavelength packet multiplexers and another customer.

23. The architecture according to claim 21, wherein said bi-directional Lambda 1 to Lambda "n" converter and packet generator select wavelengths so as not to "crash" with non-available wavelengths due to use of non-available wavelengths by other components in said architecture.

24. The architecture according to claim 4, further comprising:

a broadband photodetector for detecting a wavelength and data rate of customer generated data;

an optical-to-electrical device coupled to said bi-direction Lambda 1 to Lambda "n " converter and packet generator for reading packet header information; and